WHAT IS CLAIMED:

1. A vending machine for articles, the articles having a long dimension and a short dimension, the vending machine comprising:

(a) a cabinet;

(b) a low profile shelf supported in the cabinet, the shelf having a front end and an back end, a top surface and a bottom surface;

(c) a discharge opening below the front end of the shelf;

(d) a slot in the shelf between the front end and the back end and extending through the shelf from the top surface to the bottom surface, the slot having two sides;

(e) a helical feeder coil resting in the slot, the helical feeder coil being adapted to receive articles in its convolutions, with the articles slidably supported by the shelf along the long dimension; and

(f) a motor rotatably driving the helical feeder coil.

2. The vending machine of claim 1, wherein the helical feeder coil is adapted to receive each article between adjacent convolutions at an acute angle to the slot, the angle being determined by the pitch of the helical feeder coil.

3. The vending machine of claim 1, wherein one side of the slot is longer than the other side, the slot thus delivering articles at an acute angle to the discharge opening.

4. The vending machine of claim 1, comprising at least two slots, two helical feeder coils, and two motors.

5. The vending machine of claim 4, wherein one of the helical feeder coils rotates clockwise and the other helical feeder coil rotates counterclockwise.

6. The vending machine of claim 1, wherein the helical feeder coil has no internal support structure for the articles.

7.   The vending machine of claim 4, further comprising a pair of guide rails on each side of the slot, wherein adjacent slots share the same guide rail.

8.   The vending machine of claim 1, wherein the helical feeder coil rests in the slot with part of each convolution protruding therethrough from the top surface to the bottom surface.

9.   The vending machine of claim 1, wherein the slot further comprises a curved support portion substantially matching the curvature of the convolutions, with the convolutions resting upon the curved support portion.

10. A low profile, improved capacity shelf for holding and delivering articles in a vending machine, the articles having a long dimension and a short dimension, the shelf having a front end and an back end, a top surface and a bottom surface, the shelf comprising:

5   (a)   slots in the shelf between the front end and the back end and extending through the shelf from the top surface to the bottom surface, the slot having two opposing shelf side edges;

(b)   helical feeder coils resting in the slots upon the shelf slot edges with part of each convolution protruding therethrough from the top surface to 10   the bottom surface, the helical feeder coils being adapted to receive articles in their convolutions, with the articles slidably supported by the shelf along the long dimension; and

(c)   motors rotatably driving the helical feeder coils.

11. The vending machine shelf of claim 10, comprising at least six slots, 15   six helical feeder coils, and six motors.

12. The vending machine shelf of claim 11, wherein one of the helical feeder coils rotates clockwise and the other helical feeder coil rotates counterclockwise.

13. The vending machine shelf of claim 10, wherein the helical feeder 20   coils has no internal support structure for the articles.

14. The vending machine shelf of claim 10, further comprising pairs of guide rails on each side of the slots, wherein adjacent slots share the same guide rail.

15.   A vending machine for articles, the articles having a long dimension and a short dimension, the vending machine comprising:

(a)   a cabinet;

(b)   a shelf supported in the cabinet;

(c)   a helical feeder coil resting on the shelf, the helical feeder coil being adapted to receive articles in its convolutions, with the articles slidably supported by the shelf along the long dimension and the articles being unsupported by the helical feeder coil; and

(d)   a motor rotatably driving the helical feeder coil.

16.   The vending machine of claim 15, comprising at least two helical feeder coils and two motors.

17.   The vending machine of claim 16, wherein one of the helical feeder coils rotates clockwise and the other helical feeder coil rotates counterclockwise.

18.   The vending machine of claim 16, further comprising a pair of guide rails on each side of the helical feeder coils, wherein adjacent helical feeder coils share the same guide rail.

19.   The vending machine of claim 15, wherein the helical feeder coil rests in the slot with part of each convolution protruding therethrough from the top surface to the bottom surface.

20.   The vending machine of claim 15, wherein the slot further comprises a curved support portion substantially matching the curvature of the convolutions, with the convolutions resting upon the curved support portion.

21.   A shelf for holding and delivering articles in a vending machine, the articles having a long dimension and a short dimension, the shelf comprising:

(a)   a helical feeder coil resting on the shelf, the helical feeder coil being adapted to receive articles in its convolutions, with the articles slidably supported by the shelf along the long dimension and the articles being unsupported but movable by the helical feeder coil; and

(b)   a motor rotatably driving the helical feeder coil.

22.   The vending machine shelf of claim 21, comprising at least two helical feeder coils and two motors.

23.   The vending machine shelf of claim 22, wherein one of the helical feeder coils rotates clockwise and the other helical feeder coil rotates counterclockwise.

24.   The vending machine of claim 22, further comprising a pair of guide rails on each side of the helical feeder coils, wherein adjacent helical feeder coils share the same guide rail.

25.   The vending machine of claim 21, wherein the helical feeder coil rests in the slot with part of each convolution protruding therethrough from the top surface to the bottom surface.

26.   The vending machine of claim 21, wherein the slot further comprises a curved support portion substantially matching the curvature of the convolutions, with the convolutions resting upon the curved support portion.